

Work Order ID 50104

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July 08, 2009 11:19:05 AM

Item ID: D3391-025 Accept Setup Start
Revision ID: H Stop
Item Name: Aft Tube Assembly
Start Date: 7/10/2009 Start Qty: 1.00 Cust Item ID:
Required Date: 7/31/2009 Req'd Qty: 1.00 Customer:
Reference:

Approvals: Process Plan: [Signature] Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____
Run Start
Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D3391	Rev H								

100 MORI SEIKI CNC LATHE LARGE 0.00
Mori Seiki Memo 0.00
Mori Seiki CNC Lathe Large Turn as per Folio FA599 Rev: AA & Dwg D3391 Rev: H

A.M 09-07-15 ①

110 QC2- Inspect parts off machine FAI/FAIB 0.00
QC Memo 0.00
Quality Control

A.M 09-07-15 ①

111 QC8- Inspect parts - second check 0.00
QC Memo 0.00
Quality Control

⇒ S 09/07/15 ① φ

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 50104

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July 08, 2009 11:19:05 AM

Item ID: D3391-025 Accept Setup Start
Revision ID: H
Item Name: Aft Tube Assembly Stop
Start Date: 7/10/2009 Start Qty: 1.00 Cust Item ID:
Required Date: 7/31/2009 Req'd Qty: 1.00 Customer:
Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start
 QC: Date: SPC (Y/N): Date: Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	HAAS CNC VERTICAL MACHINING #1	0.00				1	6		
HAAS 1	Memo	0.00							
HAAS CNC vertical machine #1	1-Machine as per Folio FA 599 Rev: <u>H</u> & Dwg D3391 Rev: <u>H</u> 2-Deburr								
		N.A		09/08/11					
130	QC2- Inspect parts off machine FAI/FAIB	0.00				1	6		
QC	Memo	0.00							
Quality Control									
		N.A		09/08/11					
140	QC8- Inspect parts - second check	0.00				1	6		
QC	Memo	0.00							
Quality Control									
				09/08/11					

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Dart A

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Setup Start

Stop

Customer:

Run Start

Stop

Date

46

4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

July 08, 2009 11:19:06 AM

D u 9/8/19

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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July 08, 2009 11:19:06 AM

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Revision ID: H Stop
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Required Date: 7/31/2009 Req'd Qty: 1.00 Customer:
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
220	Skidtubes	0.00							
Skidtubes	Memo	0.00				D		M 9/8/20	
Skidtubes	Instal spacers as per dwg D3391 A/R Magnabond 6398 Batch: M11249 exp. date: 9/3/23 10/8/11 cure time 12hrs as per QSI0015								
230	QC5- Inspect part completeness to step on W/O	0.00							
QC	Memo	0.00				2) 8 09/08/21			
Quality Control									
240	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
Powdercoat	Memo	0.00				M112260			
Powder Coating	START TIME: 11:50 AM OVEN TEMPERATURE: 370°F FINISH TIME: 12:20 PM					21 09/08/21			

W/O:		WORK ORDER CHANGES					
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July 08⁵, 2009 11:19:06 AM

Setup Start

Stop

Cust Item ID:**Customer:**

Reference:

Run Start

Stop

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

280 Identify as per dwg & Stock Location: B 5 Q 2 5-7 0.00


Packaging	Memo	0.00
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Packaging

290	QC21- Final Inspection - Work Order Release	0.00
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QC	Memo	0.00
----	------	------

Quality Control

09/09/29 

 09-9-29

W/O:		WORK ORDER CHANGES					
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Picklist Print

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Page 1

Work Order ID: 50104

Parent Item: D3391-025RevH

Parent Item Name: Aft Tube Assembly

Start Date: 7/10/2009

Required Date: 7/31/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D6014-090RevA		Manufactured	No			100	Each	22.0000	1.0000			

ALUMINUM EXTRUSION

Warehouse Loc Qty Loc Code

Location

Main Warehouse

LG

22

1

42768

22

D3670-4-200RevA

Manufactured

No

230

Each

179.0000 4.0000

SPACER

Warehouse Loc Qty Loc Code

Location

Main Warehouse

ST

179

46106

16

47122

36

48198

42

48269

85

③

918120

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Page 2

July 08, 2009 11:19:05 AM

Work Order ID: 50104

Parent Item: D3391-025RevH

Parent Item Name: Aft Tube Assembly

Start Date: 7/10/2009

Required Date: 7/31/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2646RevC		Manufactured	No			270	Each	60.0000	1.0000			

Aft Cap

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	60	
20208	0	
43801	2	
46327	8	
48109	50	

D3537-1RevC		Manufactured	No			270	Each	86.0000	1.0000			
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Wearpad

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
FP	60	
48288	60	
Main Warehouse		
ST	26	
47715	1	
48162	25	

x1 09/09/22

x1 09/09/22

July 08, 2009 11:19:05 AM

Shop Packet Print

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Picklist Print

Page 3

July 08, 2009 11:19:05 AM

Work Order ID: 50104

Parent Item: D3391-025RevH

Parent Item Name: Aft Tube Assembly

Start Date: 7/10/2009

Required Date: 7/31/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
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D3537-7RevC		Manufactured	No			270	Each	29.0000	1.0000			
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Wearpad

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	29	
33869	1	
45408	14	
46346	14	

X1 09/09/22

D3553-1RevA		Manufactured	No			270	Each	24.0000	1.0000			
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Gasket

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	24	
33868	24	

X1 09/09/22

D3553-3RevA		Manufactured	No			270	Each	13.0000	1.0000			
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Gasket

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	13	
33870	5	
47206	8	

X1 09/09/22

July 08, 2009 11:19:05 AM

Shop Packet Print

Page 3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

Picklist Print

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July 08, 2009 11:19:05 AM

Work Order ID: 50104

Parent Item: D3391-025RevH

Parent Item Name: Aft Tube Assembly

Start Date: 7/10/2009

Required Date: 7/31/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
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D3672-1RevB		Manufactured	No			270	Each	736.0000	2.0000			
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Phenolic Washer

<u>Warehouse</u> <u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
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Main Warehouse

ST

736

39275

19

42329

143

47628

574

x2 211 09/09/22

ALS4-1032-130		Purchased	No			260	Each	7,799.000	14.0000			
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Insert

<u>Warehouse</u> <u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
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Main Warehouse

ST

7799

110511

7799

1111779

x14 211 09/09/22

ALS4-1032-225		Purchased	No			270	Each	9,205.000	12.0000			
---------------	--	-----------	----	--	--	-----	------	-----------	---------	--	--	--

Insert

<u>Warehouse</u> <u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-------------------------------------	----------------	-----------------

Main Warehouse

ST

9205

107441

28

110768

9177

x12 211 09/09/22

July 08, 2009 11:19:05 AM

Shop Packet Print

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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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July 08, 2009 11:19:05 AM

Work Order ID: 50104

Parent Item: D3391-025RevH

Parent Item Name: Aft Tube Assembly

Start Date: 7/10/2009

Required Date: 7/31/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	--------------------------	---------------	----------------	--------

AN3C4A		Purchased	No			270	Each	274.0000	6.0000			
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BOLT

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse	112720	
ST	274	
112082	274	

x6 All 09/09/22

AN3C5A		Purchased	No			270	Each	546.0000	4.0000			
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Bolt

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	546	
111424	8	
11707	538	

x4 All 09/09/22

AN960C10L		Purchased	No			270	Each	4,998.000	10.0000			
-----------	--	-----------	----	--	--	-----	------	-----------	---------	--	--	--

washer

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
ST	4998	
103585	100	
12116	4898	

x10 All 09/09/22

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 50102
Description: Float Skidtube (412)		Part Number: D3391-3
Inspection Dwg: D3391	Rev: H	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
14.000	+/-0.010	14.000	✓			
3.500	+/-0.010	3.450	✓			
88.93	+/-0.030	88.930	✓			
44.995	+/-0.030	45.000	✓			
Ø3.200	+/-0.010	3.200	✓			
88.93	+/-0.030	88.930	✓			
Ø3.750	+/-0.010	3.750	✓			
30° x 160" chamfer	+/-0.010	30° x 160"	✓			

Measured by: Q.m

Date: 09.07.15

Audited by: S

Date: 09/07/15

HAAS Section						
1.526	+0.000/-0.030	1.515	✓			
0.200	+/-0.010	.203	✓			
7.500	+/-0.010	7.499	✓			
27.750	+/-0.010	27.750	✓			
31.750	+/-0.010	31.750	✓			
35.250	+/-0.010	35.250	✓			
3.300	+/-0.010	3.308	✓			
0.200	+/-0.010	0.203	✓			
3.520	+/-0.010	3.522	✓			
0.687	+0.010/-0.000	.680	✓			
R0.062	+/-0.010	.062	✓			
Ø0.484	+0.005/-0.001	Ø0.488	✓			

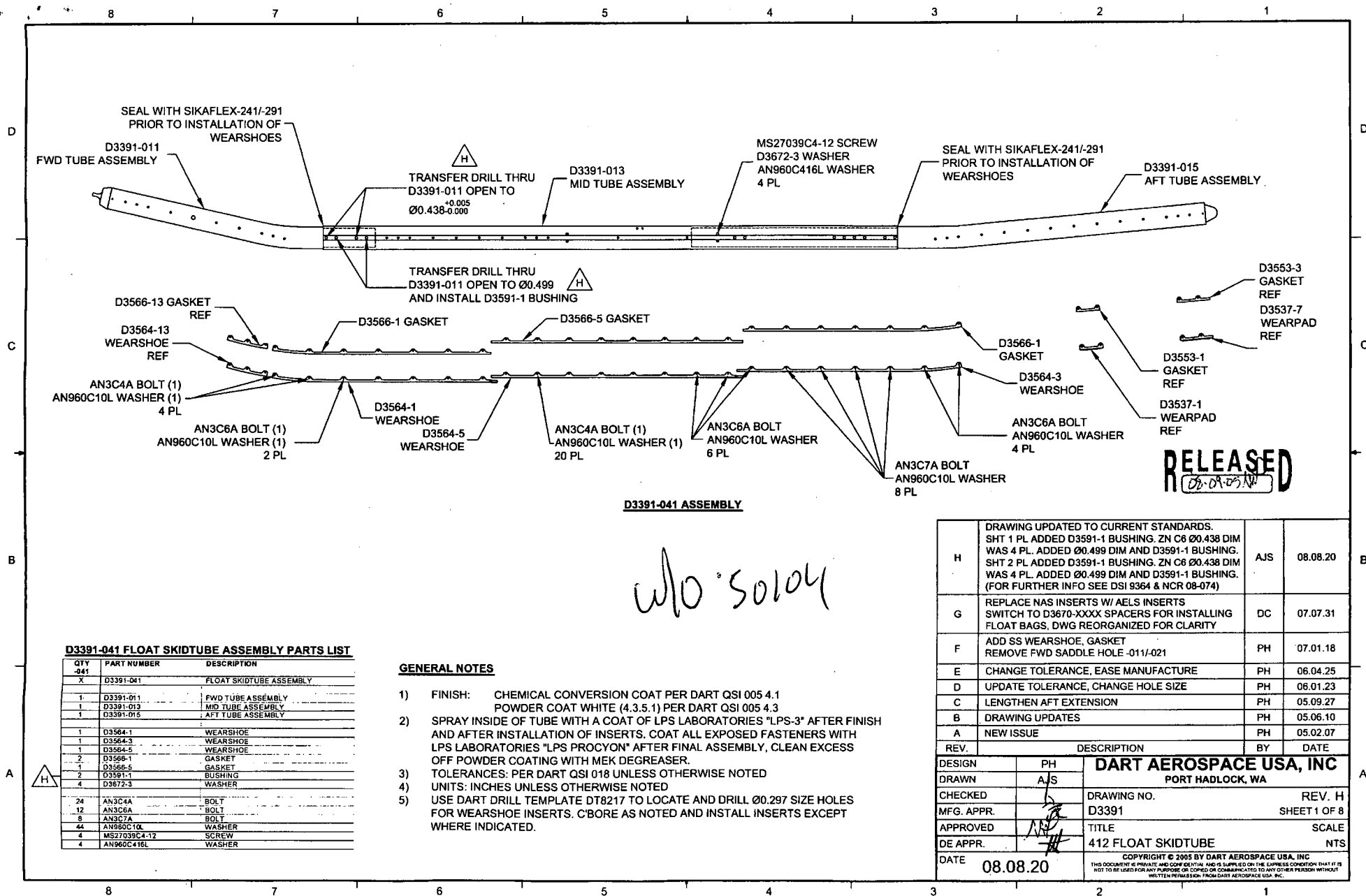
Measured by: S / B.A

Date: 07/08/10 / 09/08/11

Audited by: S 05/08/11

Date:

Rev	Date	Change	Revised by	Approved
A	06.04.24	New Issue P/O D3391-015/-025	KJ/JLM	
B	06.06.19	Dwg revision update	KJ/JLM	
C	07.04.20	Ø0.208 dimension removed	KJ/JLM	
D	07.09.06	0.400 dimension removed	KJ/JLM	
E	07.11.23	Dwg Rev. updated	KJ/EC/DD	
F	09.04.27	Dimensions updated per Rev H and NCR09-028	KJ/JLM	



H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING. ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 1 OF 8
APPROVED		TITLE	SCALE
DE APPR.		412 FLOAT SKIDTUBE	NTS
DATE	08.08.20	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND COPY CONTROL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

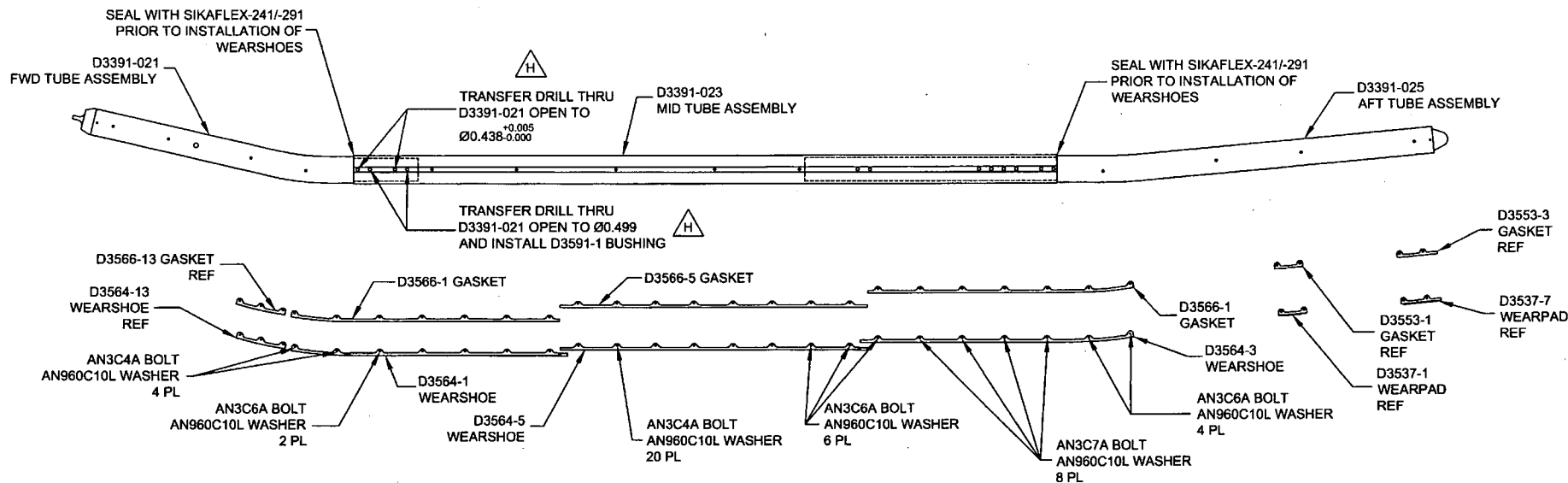
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D3391-043 ASSEMBLY

D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
1	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
1	D3564-1	WEARSHOE
1	D3564-3	WEARSHOE
1	D3564-5	WEARSHOE
2	D3566-1	GASKET
1	D3566-5	GASKET
2	D3591-1	BUSHING
24	AN3C4A	BOLT
12	AN3C6A	BOLT
8	AN3C7A	BOLT
44	AN960C10L	WASHER

GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.

50104

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08-09-25

DESIGN		PH	DART AEROSPACE USA, INC	
DRAWN		AUS	PORT HADLOCK, WA	
CHECKED		[Signature]	DRAWING NO. REV. H	
MFG. APPR.		[Signature]	D3391 SHEET 2 OF 8	
APPROVED		[Signature]	TITLE SCALE	
DE APPR.		[Signature]	412 FLOAT SKIDTUBE NTS	
DATE		08.08.20		
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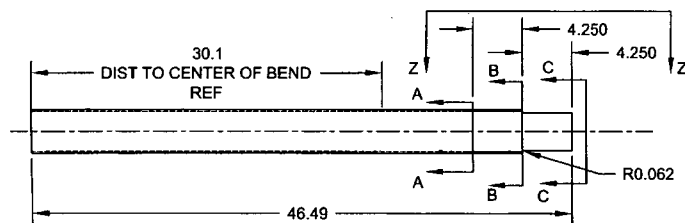
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

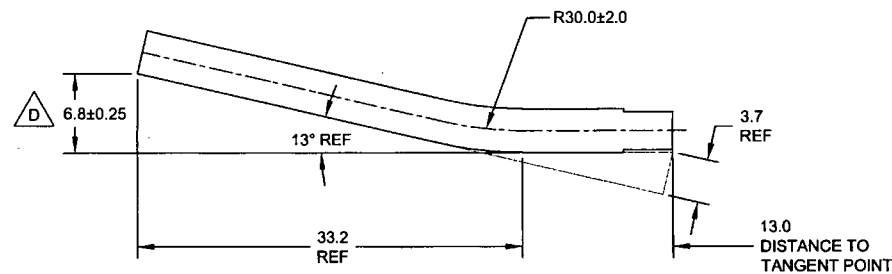
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

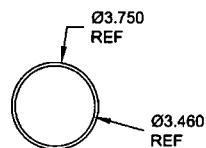
NOTE: Date & initial all entries



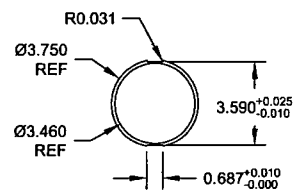
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



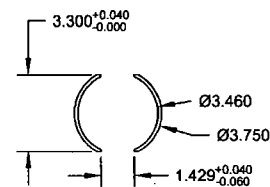
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



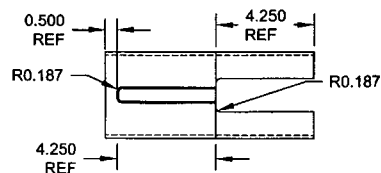
SECTION A-A
SCALE 2X



SECTION B-B
SCALE 2X



SECTION C-C
SCALE 2X



VIEW Z-Z
SCALE 2X

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08-05-11

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MFG. APPR.		D3391	SHEET 3 OF 8
APPROVED		TITLE	SCALE
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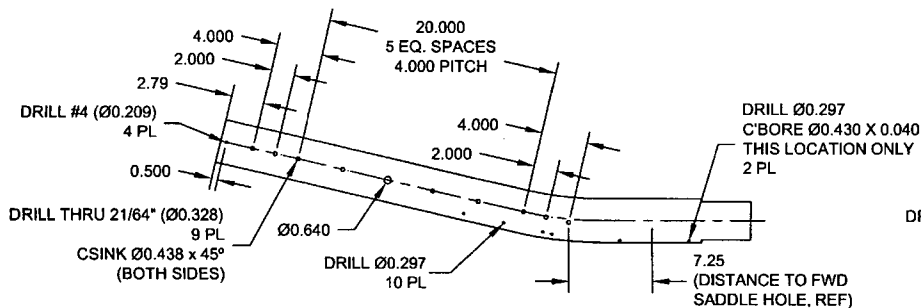
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

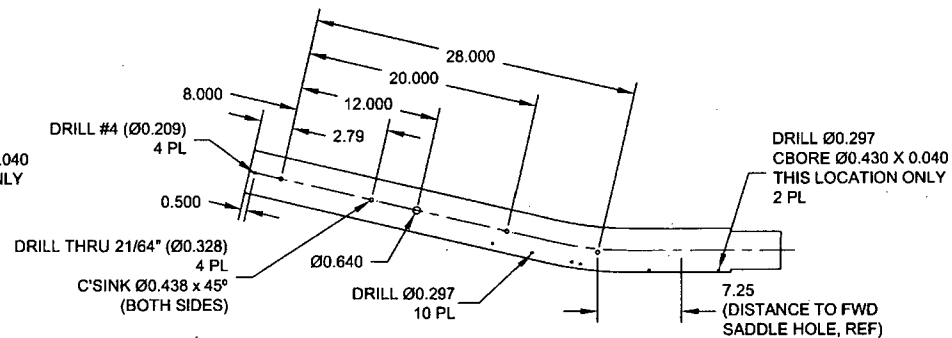
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

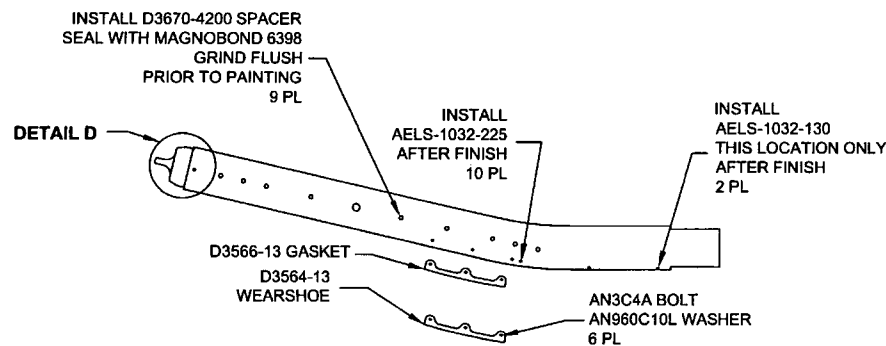
NOTE: Date & initial all entries



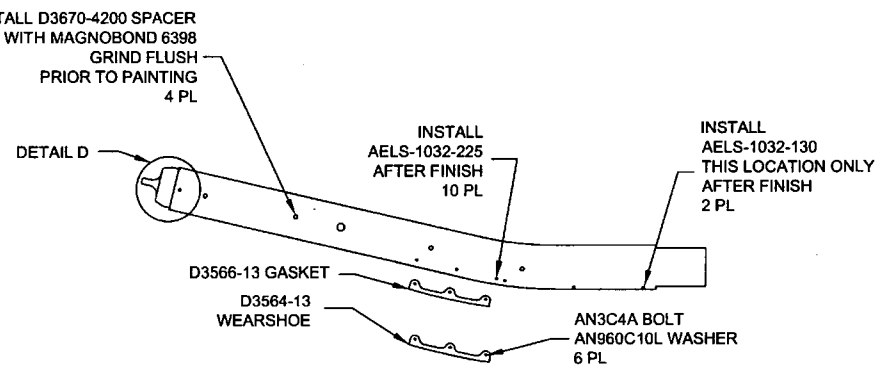
D3391-011 DRILLING DETAIL



D3391-021 DRILLING DETAIL



D3391-011 ASSEMBLY DETAIL

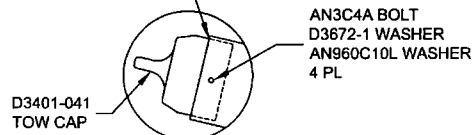


D3391-021 ASSEMBLY DETAIL

D3391-011/-021 FWD TUBE ASSEMBLY PARTS LIST

QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
X		D3391-011	FWD TUBE ASSEMBLY
	X	D3391-021	FWD TUBE ASSEMBLY
1	1	D6013-047	FWD TUBE
1	1	D3401-041	TOW CAP
1	1	D3564-13	WEARSHOE
1	1	D3566-13	GASKET
9	4	D3670-4200	SPACER
4	4	D3672-1	WASHER
10	10	AN3C4A	BOLT
10	10	AN960C10L	WASHER
2	2	AELS-1032-130	INSERT
10	10	AELS-1032-225	INSERT

SEAL WITH
SIKAFLEX-241/-291



**DETAIL D
SCALE 2X**

DESIGN	PH	DART AEROSPACE USA, INC	
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08-07-25-14

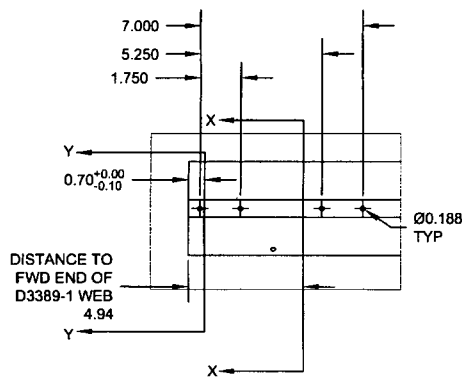
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

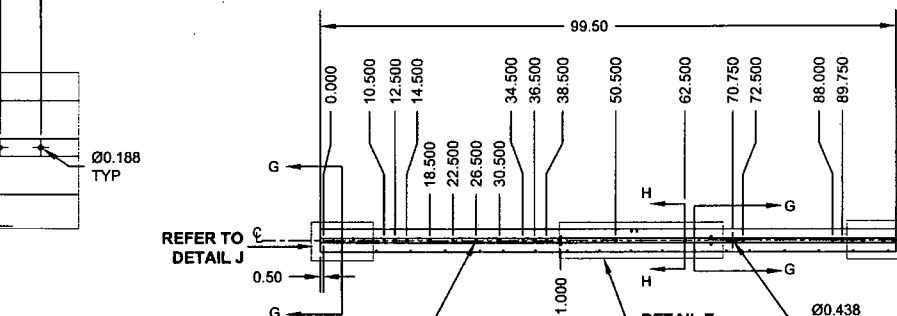
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

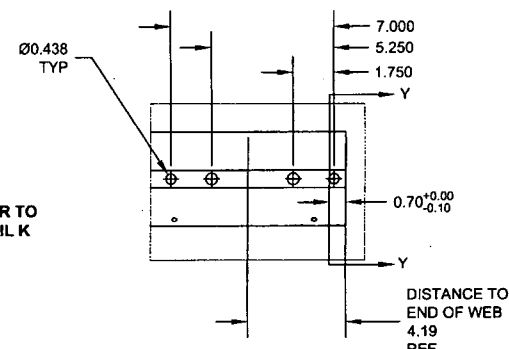
NOTE: Date & initial all entries



DETAIL J
SCALE 4X



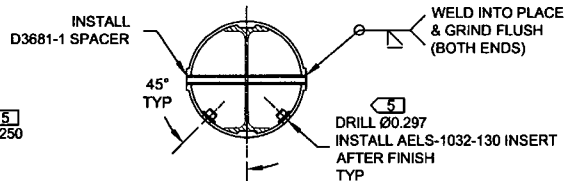
D3391-013 ASSEMBLY DETAIL



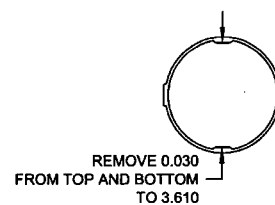
DETAIL K
SCALE 4X



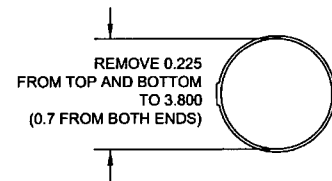
SECTION G-G
SCALE 5X



SECTION H-H
SCALE 5X



SECTION X-X
SCALE 5X



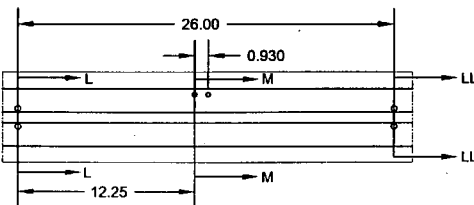
SECTION Y-Y
SCALE 5X

D3391-013 MID TUBE ASSEMBLY PARTS LIST

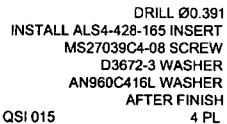
QTY	PART NUMBER	DESCRIPTION
-013		
X	D3391-013	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
4	D3672-1	WASHER
4	D3672-3	WASHER
12	D3681-1	SPACER
24	AELS-1032-130	INSERT
4	ALS4-428-165	INSERT
4	AN960C10L	WASHER
4	AN960C416L	WASHER
4	MS27039C1-09	SCREW
4	MS27039C4-08	SCREW

D3391-013 MID TUBE ASSEMBLY

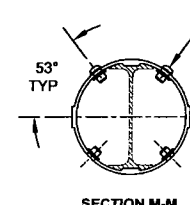
- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/291 PER QSI 015
- 3) WELDING: PER DART QSI 004



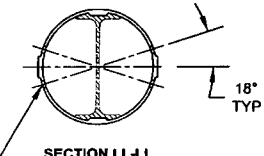
DETAIL E
SCALE NONE



SECTION L-L
SCALE 5X



SECTION M-M
SCALE 5X



SECTION LL-L
SCALE 5X

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AJS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 5 OF 8
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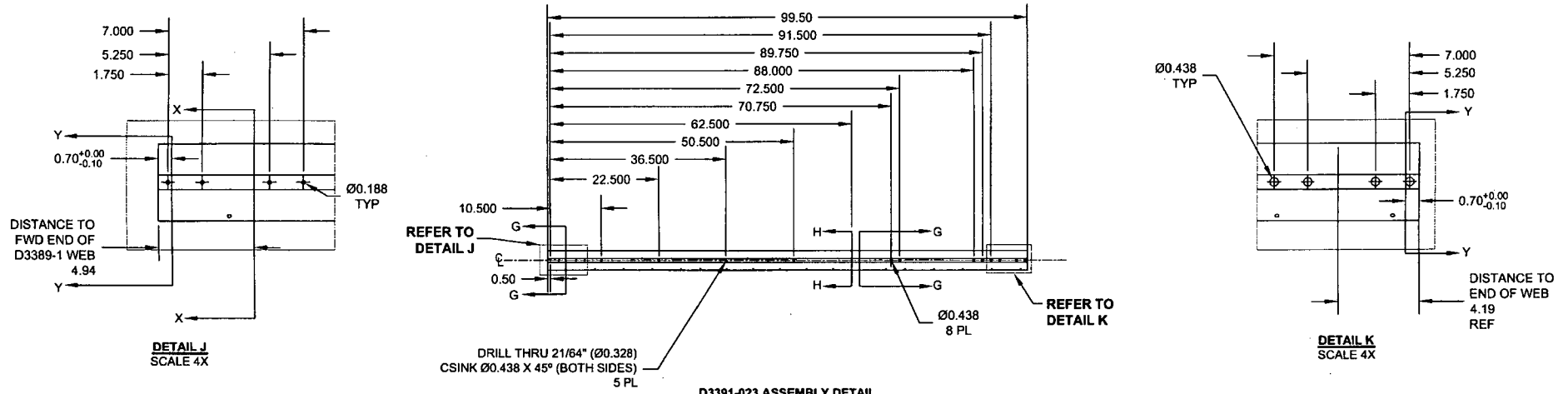
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



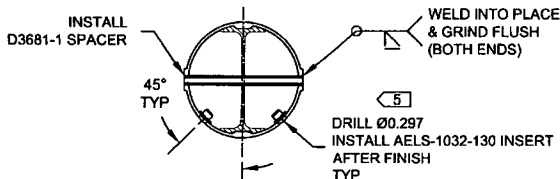
DETAIL J
SCALE 4X

DETAIL K
SCALE 4X

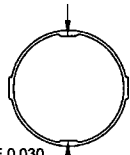
D3391-023 ASSEMBLY DETAIL



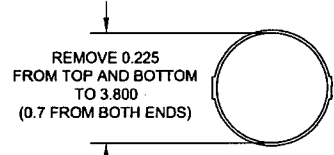
SECTION G-G
SCALE 5X



SECTION H-H
SCALE 5X



SECTION X-X
SCALE 5X



SECTION Y-Y
SCALE 5X

D3391-023 MID TUBE ASSEMBLY PARTS LIST

QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

D3391-023 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-241/-291 PER QSI 015
- 3) WELDING: PER DART QSI 004

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RELEASED
08-24-05-14

DESIGN	PH	DART AEROSPACE USA, INC	
DRAWN	AS	PORT HADLOCK, WA	
CHECKED		DRAWING NO.	REV. H
MFG. APPR.		D3391	SHEET 6 OF 8
APPROVED		TITLE	SCALE
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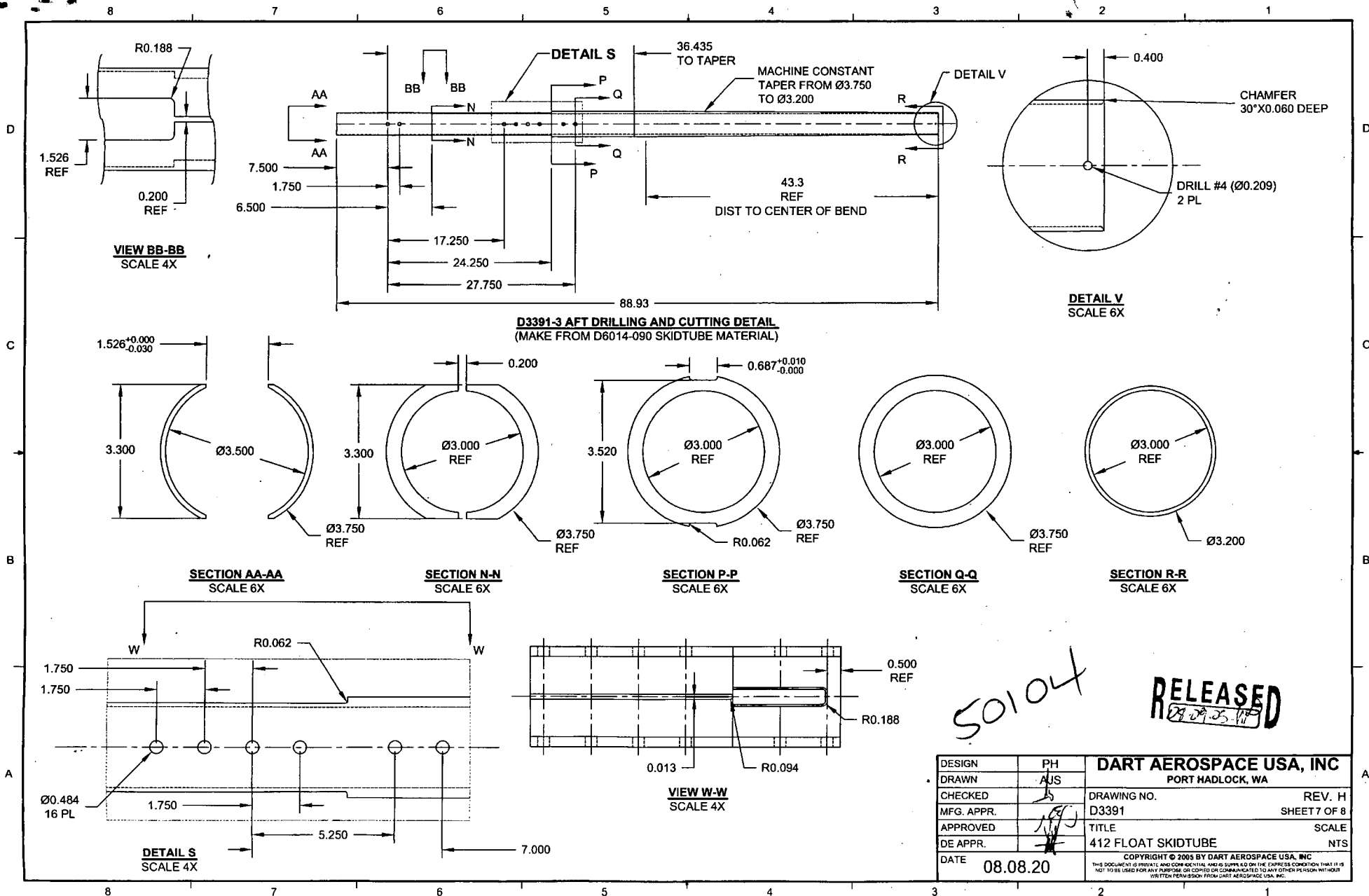
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

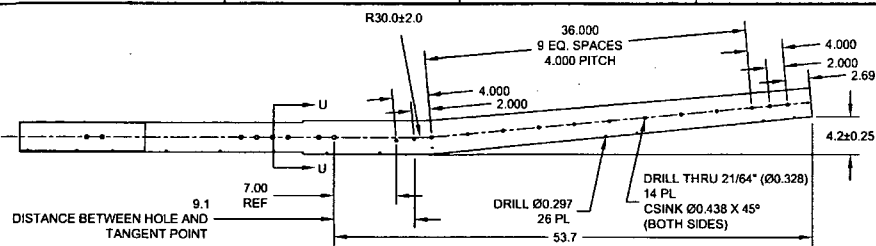
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

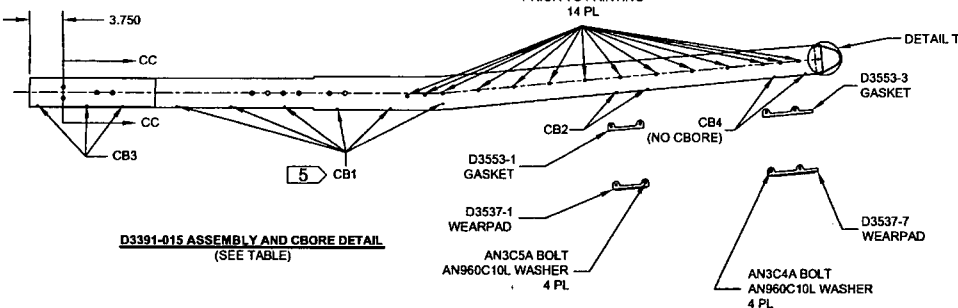
NOTE: Date & initial all entries





D3391-015 BENDING AND DRILLING DETAIL
(SEE CBORE DETAIL BELOW)

INSTALL D3670-4200 SPACER
SEAL WITH MAGNOBOND 6398
GRIND FLUSH
PRIOR TO PAINTING
14 PL



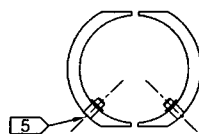
D3391-015 ASSEMBLY AND CBORE DETAIL
(SEE TABLE)

D3391-015-025 AFT TUBE ASSEMBLY PARTS LIST

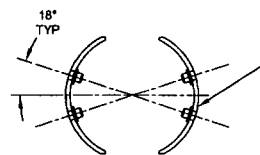
QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X	X	D3391-015	AFT TUBE ASSEMBLY
		D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
1	1	D3537-1	WEARPAD
1	1	D3537-7	WEARPAD
1	1	D3553-1	GASKET
1	1	D3553-3	GASKET
14	4	D3670-4200	SPACER
2	2	D3672-1	WASHER
14	14	AELS-1032-130	INSERT
12	12	AELS-1032-225	INSERT
4		AL54-428-165	INSERT
6	6	AN3C4A	BOLT
4	4	AN3C5A	BOLT
10	10	AN960C10L	WASHER

CBORE HOLES MARKED CB1-CB4 AS FOLLOWS AND
INSTALL AELS-1032-XXX AFTER FINISH AS NOTED

HOLES MARKED	QTY D3391-015	QTY D3391-025	CBORE	P/N
CB1	12	12	Ø0.430 X 0.170	AELS-1032-225
CB2	4	4	Ø0.430 X 0.170	AELS-1032-130
CB3	6	6	Ø0.430 X 0.040	AELS-1032-130
CB4	4	4	NONE	AELS-1032-130

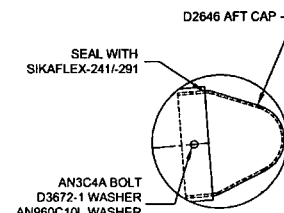


SECTION U-U
SCALE 3X



SECTION CC-CC
SCALE 3X

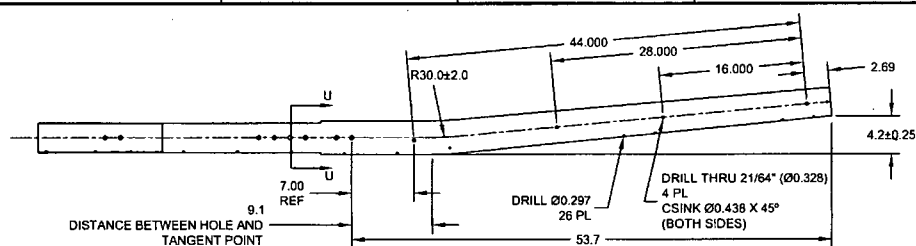
DRILL Ø0.391
CBORE Ø0.516 X 0.040 DEEP
INSTALL AL54-428-165 INSERT
4 PL



DETAIL T
SCALE 4X

D3391-025 BENDING AND DRILLING DETAIL
(SEE CBORE DETAIL BELOW)

INSTALL D3670-4200 SPACER
SEAL WITH MAGNOBOND 6398
GRIND FLUSH
PRIOR TO PAINTING
4 PL



D3391-025 ASSEMBLY AND CBORE DETAIL
(SEE TABLE)

DESIGN	PH	DART AEROSPACE USA, INC PORT HADLOCK, WA	
DRAWN	AJS		
CHECKED	JS	DRAWING NO.	REV. H
MFG. APPR.	JS	D3391	SHEET 8 OF 8
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08-09-05-100

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